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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/613,741	07/11/2000	Yuji Tsuda	B 422-158	1507

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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

11

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/613,741

Applicant(s)

TSUDA ET AL.

Examiner

Nhan T. Tran

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 41-53 and 67-81 is/are pending in the application.
- 4a) Of the above claim(s) 12-40 and 54-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 41-53 and 67-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 & 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2615

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I claims 1-11, 41-53 and 67-81 in Paper No. 10 is acknowledged.

Drawings

2. Figures 21 – 28(c) should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 67 – 81 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al (US 5,483,280).

Regarding claim 67, Takahashi discloses an apparatus comprising:

an ND filter and an iris which limit incident light, the iris being capable of operating of operating independent of the ND filter; and a control device which determines an operating state of the iris (i.e., at the position little ahead of the position at which the diffraction phenomenon will occur) and controls an operation of the ND filter according to a result of the determination (see Figs. 2 & 3; col. 10, lines 4-13).

Regarding claim 68, Takahashi further discloses that the control device determines the operating state of the iris according to an operating position of the iris (see col. 4, line 62 – col. 5, line 3).

Regarding claim 69, Takahashi also discloses the control device makes the ND filter active in response to determining that an aperture of the iris has become small up to a predetermined aperture (see Figs. 2 & 3; col. 4, line 62 – col. 5, line 3 & col. 10, lines 4-13).

Regarding claim 70, it is clear that the control device makes the ND filter inactive in response to determining that an aperture of the iris has become large up to a predetermined aperture (see Figs. 2 & 3; col. 4, line 62 – col. 5, line 3 & col. 10, lines 4 – 13 and note that the ND filter is active only when the aperture is detected to be too small at the position detected by the detector 16 and the ND filter is inactive when the aperture is large enough to be out of that range).

Regarding claim 71, Takahashi further shows a CCD (3) in Fig. 1.

Regarding claim 72, Takahashi also shows a lens (1) in Fig. 1.

Regarding claim 73, the claimed limitations are analyzed in claim 67.

Regarding claim 74, the claimed limitations are analyzed in claim 67. In addition, Takahashi shows a control program product in Fig. 4.

Regarding claim 75, Takahashi also shows a ROM in Figs. 1 & 4.

Regarding claims 76 - 81, the claimed limitations are analyzed in claims 67 - 72, respectively.

4. Claims 41 - 46 & 49 - 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Ernest et al (US 4,827,348).

Regarding claim 41, Ernest discloses an apparatus comprising an ND filter and an iris (see Fig. 4) which limit the incident light; and control device which determines an operating state of the ND filter (i.e., insertion or removal of ND filter with respect to the optical axis as shown in Figs. 4 - 12) and control an operation of the iris according to a result of the determination (see col. 2, lines 33-52).

Regarding claim 42, the ND filter is determined to be active when it is in the optical axis and inactive when it is as out of the optical axis shown in col. 2, lines 33-52.

Regarding claim 43, Ernest also discloses that the control device controls the operation of the iris in such a way to cancel a change amount of limitation of the incident light by the ND filter with a change amount of limitation of the incident light (see col. 2, lines 40-52 wherein the quantity of image light to which the CCD is exposed is controlled by a combination of iris stop setting and ND filter attenuation).

Regarding claims 44 & 45, Ernest shows a CCD and a lens in Figs. 3 & 4.

Regarding claim 46, the claimed limitations are analyzed in claim 41.

Regarding claims 49 – 53, the claimed limitations are analyzed in claims 41 – 45, respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 11 & 41 – 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisama Kenji (JP 09-098322) in view of Yamaguchi (US 5,638,123).

Regarding claim 1, Hisama discloses an ND filter (105) and an iris (103) which limit incident light (see Fig. 1; paragraph [0018]);

a changing device (microcomputers 119, 207, motor 104, IG meter 114) which changes a state of limitation of the incident light by the iris at a first changing speed (see Figs. 1 & 2 wherein automatic exposure control (AE) is performed and this AE indicates that a certain control timing of the iris is inherent during exposure control operation in order for the automatic exposure control to function in response to brightness of an object) and Hisama also discloses that a state of limitation of the incident light by the ND filter is detected as being changed from ON/used to OFF/unused and vice versa in response to a signal output from pilot (106) (see paragraph [0022]).

Hisama does not explicitly disclose the changing device to change the state of limitation of the incident light at a second speed different from first changing speed.

Yamaguchi teaches that response speed of iris in camera can be faster than normal as change of luminance level and thus making it possible to realize an iris response closer to that of the eye of human being (see col. 3, lines 15-21 & 41-43).

Therefore, it would have been obvious to one of ordinary skill in the art to realize that the changing state of limitation of the incident light by the iris in Hisama would have been changed faster than normal as change of luminance level which is at least caused by

Art Unit: 2615

insertion or removal of the ND filter with respect to the optical path so that the response of iris is increased to the level closer to that of the eye of human being to provide a better exposure control in the camera.

Regarding claim 2, the claimed limitations are analyzed in claim 1.

Regarding claim 3, Hisama shows a CCD (201) in Fig. 1.

Regarding claim 4, Hisama also shows lens device in Fig. 1.

Regarding claim 5, the claimed limitations are analyzed in claim 1.

Regarding claim 6, the claimed limitations are analyzed in claim 1 with addition of Figs. 2 – 4 in Hisama wherein the control program of the camera is illustrated.

Regarding claim 7, it is noted that a storage medium, such as a ROM or EPROM, is inherent in Hisama for storing execution codes of the control program.

Regarding claim 8, the claimed limitations are analyzed in claim 1, and Hisama also shows a first changing device (104) and a second changing device (114) in Fig. 1.

Regarding claims 9 - 11, the claimed limitations are analyzed in claims 2 – 4, respectively.

Regarding claim 41, the claimed limitations are analyzed in claim 1.

Regarding claim 42, the control device also determines the operating state of the ND filter (ON/OFF state or used/unused state detected by pilot 103) according to an operating position of the ND filter (i.e., the position in the optical axis or out of the optical axis; see Fig. 1).

Regarding claim 43, the claimed limitations are met by the combination of Hisama and Yamaguchi as analyzed in claim 1, wherein the insertion (ON) or removal (OFF) state of the ND filter with respect to the optical axis shown in Fig. 1 causes a change in luminance which is balanced off by immediate changing state of iris.

Regarding claims 44 & 45, the claimed limitations are analyzed in claims 3 & 4, respectively.

Regarding claim 46, the claimed limitations are analyzed in claim 1.

Regarding claims 47 & 48, the claimed limitations are analyzed in claims 6 & 7, respectively

Regarding claims 49 – 53, the claimed limitations are analyzed in claims 41 – 45, respectively.

Art Unit: 2615

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246.

The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

NT.



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600